

Appl. No. 10/815,561
Amdt. Dated October 11, 2005
Reply to Office action of July 13, 2005

REMARKS/ARGUMENTS

Claims 1-26 and 30-32 are pending in the present application.

This Amendment is in response to the Office Action mailed July 13, 2005. In the Office Action, the Examiner objected to the specification, rejected claims 1-2, 5, 8-9, 11, 14, 17-18, 21-22, and 24 under 35 U.S.C. §102(e); and claims 3-4, 6-7, 10, 12-13, 15-16, 19-20, 23, 25-26, and 30-32 under 35 U.S.C. §103(a). Applicant have amended claims 1-26 and 30-32. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Specification

1. The Examiner objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. Specifically, the Examiner states that "[t]he specification does not support the limitation of forming an imprinted polymer ... 'by local flow of the polymer' in the claims." (Office Action, page 2.) Applicant respectfully disagrees.

Applicant would like to direct the Examiner's attention to the specification, page 6 (lines 8-9); page 7 (lines 15-16); and page 10 (lines 17-18; lines 26-27, where the phrases "local flow", "local lateral flow", and "lateral flow" are used.

Since the specification provides full support for the claims, Applicant respectfully request the objection to the specification be withdrawn.

Rejection Under 35 U.S.C. § 102

1. In the Office Action, the Examiner rejected claims 1-2, 5, 8-9, 11, 14, 17-18, 21-22, and 24 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,897,089 issued to Farnworth ("Farnworth"). Applicant respectfully traverses the rejection and contends that the Examiner has not met the burden of establishing a prima facie case of anticipation.

Farnworth discloses a method and system for fabricating semiconductor components using wafer level contact printing. A die includes a pattern of die contacts 18 formed on a circuit side 20 (Farnworth, col. 3, lines 34-35). A polymer layer 24 is formed on the circuit side 20 of a substrate 14 (Farnworth, col. 3, lines 43-44). A stencil 26 is then provided which includes a plurality of patterns 28 (Farnworth, col. 4, lines 13-15). Each of the patterns 28 is adapted to imprint a complementary pattern 36 in the polymer layer 24, with each die 12 including at least

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one complementary pattern 36 (Farnworth, col. 4, lines 22-25). Then, an alignment step is performed in which the stencil 26 is aligned with the substrate 14 (Farnworth, col. 4, lines 35-37). Then, a contact printing step is performed in which the stencil 26 is placed in contact with the polymer layer 24 to form a patterned polymer layer 24P imprinted with the complementary patterns 36 (Farnworth, col. 4, lines 64-67). None of these steps includes exposing a bond pad on the substrate by local flow of the polymer.

Farnworth does not disclose, either expressly or inherently, at least forming an imprinted polymer disposed upon a substrate under conditions to expose a bond pad on the substrate by local flow of the polymer, wherein a recess is formed in the polymer, as recited in independent claims 1, 17, and 30.

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Vergegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the...claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). Since the Examiner failed to show that Farnworth teaches or discloses any one of the above elements, the rejection under 35 U.S.C. §102 is improper.

Farnworth merely discloses performing a contact printing step in which the stencil 26 is placed in contact with the polymer layer 24 to form a patterned polymer layer 24P imprinted with the complementary patterns 36 (Farnworth, col. 4, lines 64-67). A contact printing step is not the same as causing a local flow of the polymer. Additionally, Farnworth does not disclose a convex over-all profile as recited in claims 5.

Therefore, Applicant believes that independent claims 1 and 17 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §102(e) be withdrawn.

Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 3-4, 6-7, 10, 12-13, 15-16, 19-20, 23, 25-26, and 30-32 under 35 U.S.C. §103(a) as being unpatentable over Farnworth. Applicant

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respectfully traverses the rejection and contends that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP §2143, p. 2100-129 (8th Ed., Rev. 2, May 2004)*. Applicants respectfully contend that there is no suggestion or motivation to combine their teachings, and thus no *prima facie* case of obviousness has been established.

Farnworth discloses a method and system for fabricating semiconductor components using wafer level contact printing as discussed above

Farnworth, taken alone or in any combination, does not disclose, suggest, or render obvious (1) local flow of the polymer, (2) filling a solder flux into the recess, (3) a convex over-all profile, and (4) partially flattening the convex over-all profile

The Examiner merely states that it would have been obvious to one of ordinary skill in the art to have had a microprocessor mated with the solder bump, wherein mating includes at least partially flattening the convex over-all profile, etc. (Office Action, page 4, paragraph number 6.). The Examiner apparently relied on the "official notice" to arrive at such a conclusion because the Examiner did not provide any prior art reference teaching or suggesting the above feature. Applicants contend that such an official notice is inappropriate.

Official notice unsupported by documenting evidence should only be taken by the Examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well known. *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970); *MPEP 2144.03A*. It would not be appropriate for the Examiner to take official notice of facts without citing a prior art references. *MPEP 2144.03A*. Furthermore, if official notice is taken of a fact, unsupported by documentary evidence, the technical line of reasoning underlying a decision to take such notice must be clear and unmistakable. *MPEP 2144.03B*.

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Here, Farnworth does not disclose or suggest local flow of the polymer and a convex over-all profile as discussed above. The Examiner did not provide a technical line of reasoning which must be clear and unmistakable. The Examiner merely states that "it would have been obvious to one of ordinary skill in the art . . . mating includes at least partially flattening the convex over-all profile. Farnworth merely discloses a contact printing step to place the stencil 26 in contact with the polymer layer 24. This operation is not related to causing a local flow in the polymer. In addition, it does not involve the use of a convex over-all profile. Therefore, the Examiner's reasoning is unclear and not unmistakable.

In summary, Applicant believes that independent claims 1, 17, and 30 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejections under 35 U.S.C. §102(e) and 35 U.S.C. §103(a) be withdrawn.

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Conclusion

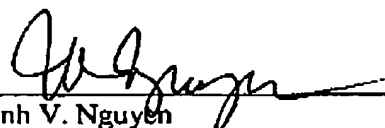
Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: October 11, 2005

By


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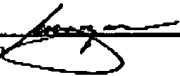
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